PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Comparing the nutritional status of children and adolescents from North Korean defector families and South Korean families.
AUTHORS	Kim, So-Yeong; Choi, Seong-Woo; Park, Jong; So, Yeon Ryu; Han, Mi Ah; Park, SunYoung

VERSION 1 – REVIEW

REVIEWER	Jaesin Sa Touro University, of Health and Human Performance
REVIEW RETURNED	02-May-2021

GENERAL COMMENTS	This paper addresses an important issue among North Korean defector families in South Korea. The comparison between the two groups is interesting. However, this manuscript suffers from structural issues that may make it unsuitable for publication in BMJ Open. I found many lengthy and unnecessary sentences that may not be suitable for publication. In addition, the Discussion section is very long with unnecessary information. This paper may need careful and extensive revisions. I feel that I thoroughly and accurately outlined the salient issues. Thank you! ABSTRACT 'were interviewed directly.' What interview? Phone interview? Please specify this. 'Their nutritional statuses.' I would state 'Their nutritional behaviors' 'The overall prevalence of stunting… 12.2 respectively' Is this for N. Korean defector families or S. Korean families? Or, overall? There is an error. Please include '%' after 12.2. 'for individuals settled in South Korea for <5 years' 'living in South Korea for ≥5 years was' Why did you use different age categories for the two groups? Provide your rationale for this. The word 'individuals' may make readers confused. Please pick up two terms [e.g., North Korean defectors and South Korean families] that differentiate between the two groups. I do not see big differences in the prevalence between the two groups. '13.3,' Here is an error. I doubt if authors read their paper carefully before submitting it. 'The children and adolescents from North Korean defector families experience double burden of

malnutrition and obesity.' The obesity rates of the two groups are almost the same [13.3% vs 14.5%]. How is this double burden of obesity?

'The results are hard to … but convenience sampling.' This is lengthy. Please shorten it

'children and youth of..' Were these children and youth born in S. Korea. Right? Are North Korean defectors South Koreans now? Authors need to use clearer terms that differentiate between the two groups.

INTRODUCTION

'5,097 children…' Please do not start your sentence with numbers.

'According to the National Nutrition Survey suffer from stunting, wasting, and underweight, respectively.[3]' This is a very lengthy sentence. Please use two sentences instead of one.

'that 1.1 million people … were malnourished in North Korea' Hard to understand this. How many people were malnourished in North Korea? Please make it clearer.

'low health status' What does this mean?

'Even if nutrition is well supplied afterward, the risks of adult diseases like diabetes mellitus or obesity increase considerably.' Regardless of race/ethnicity and nationalities, we frequently encounter people who have diabetes or are obese. I would make this sentence clearer.

'Previous studies..' Please include references after 'studies.' Readers might want to see how many studies have been performed thus far.

'the studies…' Same issue here. Please include references after 'studies.'

'the nutritional status of children and youth of the North Korean defector … South Korean society' 'the nutritional status of children and youth of the North Korean defector … South Korean society using' Please paraphrase one of these.

Data collection methods

'We contacted parents and children' How did you have their contact information?

'We thoroughly explained the purpose…' How did you explain this? Over the phone? Or, by emails? Who did this? Did the person have any human research protection training?

'direct interviews' Did you mean the face to face interview?

'measuring height and weight via mobile stadiometer and scale.' Where did you measure their weight/height? In a lab or in a room? Or, in a hospital? In front of other participants? Did they have to take off their clothes and shoes? How many times were measured? Only one time?

Children and youth of the South Korean households

'4,880 children and youth aged 0–18 years' How did babies and infants participate in the KNHANES VII?

Investigated variables

'can measure up to 200 cm on a 0.1 cm scale' This sentence is out of our study purpose most children/adolescents are shorter than 200 cm. Please remove this and try to make your paper concise.

'Additionally, we examined country of birth (South Korea, North Korea, China, etc.), … (South Korea, North Korea, China, etc.), and date of entry into South Korea.' Please avoid redundancy.

"Monthly income quartile" "high," "low." Quotation marks are not necessary.
Participants' growth status, malnutrition, overweight, and obesity

'2017 Korean…' Please do not start your sentence with numbers.

"WHO Growth Standards" Quotation marks are not necessary.

'only including breastfed infants' Pleas put 'only' after 'infants'.

'height for age, weight for age, and BMI for age' This is redundant.

'the participants of the study' This is wordy. Please use 'study participants' or 'participants'.

Data analysis

'SPSS 25.0 (IBM Corp., Armonk, NY, USA)' This is wordy too. For example, SPSS 25 is the only one in version 25.

'Independent t-test for the mean of the growth status and chi-square test and Fisher's exact test for the proportional distribution of malnutrition, overweight, and obesity were used ....' Hard to understand this.

'between the North Korean defector group and the South Korean group' This is wordy. Why don't you use easier and simple words/terms. How about 'between the two groups'?

'overweight, and obesity prevalence of the North Korean defector group' I would state 'the prevalence of overweight and obesity of…'

'gender and age adjustment' Why were these two variables used as control variables? What is your rationale for this?

Comparison of the general characteristics

'5,407 consisting of 527… 4,880 children and youth of the South Korean households' The number of participants in each group was biased. Please add this to your study limitation.

'there were 227 males (52.6%) and 250 females (47.4%)' This wordy because 100-52.6=47.4.

'2,513 males (51.5%) and 5,367 females (48.5%).' Same here.

'(6.6%) and 492 children aged 24 months or older (93.4%). Same here.

'(5.4%) and 4,618 children aged 24 months or older (94.6%). Same.

'In South Korea of the North Korean defector group' This is wordy. You have already mentioned that defectors have been living in South Korea.

'4.2 ± 3.4 years' Small numbers first.

'the most common country of birth was China (235, 45.7%) followed by South Korea (37.4%) and North Korea (16.7%).' You do not need to list all of your findings if these are shown in Tables.

'(64.2%) and 1,743 low-income households (35.8%)' Wordy.

'BMI (kg/m²) 19.4 vs 18.3' I do not see any difference in BMI between the two groups in Table 1.

'Monthly household income Low High' Please use $.

'The results of the comparison of malnutrition, overweight, and obesity between the North Korean defector group and the South Korean group are as follows.' This is wordy. Please use the terms 'two groups.'

'The North Korean defector group was higher in all 5 categories' The rates of overweight and obesity between two groups were 11.2% vs 8.4% and 12.2% vs 9.4%. I do not see big differences.

'overweight (p = 0.032)' This p-values may be due to the large sample size. Please report your effect sizes [e.g., Cramér's V].

Comparison of malnutrition, overweight, and obesity according to monthly household income

'and 8.7%, 10.0%, and 10.2%, respectively, in the North Korean defector' What was the income level of this group? Like South Korean households, were North Korean defectors not divided into two groups according to their monthly household income?

Comparison of the prevalence of malnutrition, overweight, and obesity

'The results of logistic regression analysis to assess the … between the North Korean defector and South Korean groups are as follows.' This is lengthy.

'higher prevalence of stunting' Prevalence and ORs are different. Please use the correct term.

'All differences..' ORs are not differences.

'After gender and age adjustment' With these controlled variables, your ORs are adjusted ORs, not just ORs.

'which were found to be significant' This is redundant as you have

already reported your CIs.

DISCUSSION

'This study aimed to assess…' It seemed that you compared the two groups instead of assessing North Korean defectors.

'As a result of logistic regression analysis comparing…' Yes, as you stated here, you have been comparing.

'ORs were 5.59 (95% CI: 3.87–8.09), 1.93 (95% CI: 1.42–2.62), 1.37 (95% CI: 1.03–1.83), and 1.33 (95% CI: 1.00–1.78). These data not necessary.

'nutritional problems such as malnutrition, overweight, and obesity' Obesity is a very complicated disease. There are so many factors [e.g., gender, race/ethnicity, income, marital status, physical activity, stress, depression, anxiety, family obesity history, sleep duration, sleep quality, etc] causing obesity. Nutrition is just a par of it.

'Previous studies…' Please include references here.

'The study showed..' Did you mean 'stuides'?

'the original members of South Korea' I would use one or two terms only for South Korean who were born in South Korean and grew up there. How about 'native South Korean'? The words 'original members' are confusing.

'These previous study results …' This is awkward.

'A previous study…' How about 'Prior research?'

'in Seoul and Incheon…' Some readers do not know what Seoul and Incheon. Please state 'in two cities (Seoul and Incheon).'

'had a higher possibility of being' How about 'were at a greater risk of obesity'?

'Children and youth of the North Korean defector households are thought … being obese as they grow up.' This is a very long discussion section. Please reiterate your findings, compare them to previous findings, and provide suggestions or implications for future research.

'experience health disparity…' I would continue to use the terms 'health disparities between the two groups.'

'based on the study results…' Did you mean the present study?

'this study has significance…' What does this mean? Did you try to state that this study contributes to the literature?

'Growth charts … WHO Child Growth Standards…' Please briefly explain the information about Growth charts and WHO Child Growth Standards. This is too long.

'There are some limitations to this study.' There might have been measurement errors when weight of participants was measured. Please address this. How did you measure heigh/weight of

	children/adolescents who participated in KNHANES?
	'this study has great significance…' This sentence is awkward.
	'The development of the program to assess the growth status of children and through further follow-up is required.' Hard to understand this.

REVIEWER	Jitendra Narayan Indian Council of Medical Research, Epidemiology and Communicable Disease
REVIEW RETURNED	20-May-2021

GENERAL COMMENTS	1. Latest references are missing. e.g. the author has recently published a study in PLOS ONE on November 6, 2020, https://doi.org/10.1371/journal.pone.0241963 titled 'Double burden of malnutrition and obesity in children and adolescents from North Korean refugee families' which was based on the same data set, has not been referenced in this manuscript. The title of the above article is the same as stated in the conclusion of the abstract part of the current manuscript through which I understand that the same findings have been rewritten in the current manuscript. 2. The results indicated that 527 children and youth were considered for this study whereas 227 (52.6%) were males and 250 (47.4%) were females. The figures 227 of males need to be rechecked. 3. For comparison between North Korean Refugee Families (NKRF) 527 and South Korean Families (SKF) 4880, the data is proportionately inadequate as the corresponding sample size has much difference i.e. NKRF (527): SKF (4880). 4. Besides that, the data depicted in Table 1 indicates that the average height, weight, and BMI of NKRF were on the higher side compared to SKF, whereas the comparison of percent prevalence of stunting, wasting, underweight, overweight and obesity was also mentioned on the higher side in NKRF group, which seems a little contradictory. I would suggest the author recheck the statistical analysis by adjusting the sample size proportionately. 5. The title of the manuscript is not much convincing, this may also be rephrased

VERSION 1 – AUTHOR RESPONSE

Reviewer: 1
Dr. Jaesin Sa, Touro University
Comments to the Author:
This paper addresses an important issue among North Korean defector families in South Korea. The comparison between the two groups is interesting. However, this manuscript suffers from structural issues that may make it unsuitable for publication in BMJ Open. I found many lengthy and unnecessary sentences that may not be suitable for publication. In addition, the Discussion section is very long with unnecessary information. This paper may need careful and extensive revisions. I feel that I thoroughly and accurately outlined the salient issues. Thank you!

ABSTRACT

1. 'were interviewed directly.' What interview? Phone interview? Please specify this.

Answer: We have revised the following according to your suggestion, we added a information like below

➔ Children and adolescents from North Korean defector families **were interviewed face-to face directly**

2. 'Their nutritional statuses.' I would state 'Their nutritional behaviors'

Answer: It is an expression that expresses the status, and status is the correct expression.

➔ **Their nutritional status** were estimated using the 2017 Korean National Growth Charts for children and adolescents

3. 'The overall prevalence of stunting… 12.2 respectively' Is this for N. Korean defector families or S. Korean families? Or, overall? There is an error. Please include '%' after 12.2.

Answer: We have revised the following according to your suggestion

➔ **The overall prevalence of stunting, wasting, underweight, overweight, and obesity in NKD families was 8.9%, 10.2%, 10.4%, 11.2%, and 12.2% respectively**.

4. 'for individuals settled in South Korea for <5 years' 'living in South Korea for ≥5 years was' Why did you use different age categories for the two groups? Provide your rationale for this. The word 'individuals' may make readers confused. Please pick up two terms [e.g., North Korean defectors and South Korean families] that differentiate between the two groups.

Answer: Reviewer2 suggested that statistical analysis be re-established. So, I did the statistical analysis again. I also modified the abstract

➔ **The overall prevalence of stunting, wasting, underweight, overweight, and obesity in NKD families was 8.9%, 10.2%, 10.4%, 11.2%, and 12.2% respectively**, and 1.9%, 7.1%, 5.9%, 9.2%, and 9.3%, respectively, in the SK families.

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5. I do not see big differences in the prevalence between the two groups.

Answer: Reviewer2 suggested that statistical analysis be re-established. So, I did the statistical analysis again. I also modified the abstract.

6. '13.3,' Here is an error. I doubt if authors read their paper carefully before submitting it.

Answer: Reviewer2 suggested that statistical analysis be re-established. So, I did the statistical analysis again. I also modified the abstract.

7. 'The children and adolescents from North Korean defector families experience double burden of malnutrition and obesity.' The obesity rates of the two groups are almost the same [13.3% vs 14.5%]. How is this double burden of obesity?

Answer: Reviewer2 suggested that statistical analysis be re-established. So, I did the statistical analysis again. I also modified the abstract.

8. 'The results are hard to … but convenience sampling.' This is lengthy. Please shorten it

Answer: Reviewer2 suggested that statistical analysis be re-established. So, I did the statistical analysis again. I also modified the abstract.

9. 'children and youth of..' Were these children and youth born in S. Korea. Right? Are North Korean defectors South Koreans now? Authors need to use clearer terms that differentiate between the two groups.

Answer: We have revised the following according to your suggestion

➔ The nutritional status of children and adolescents form NKD families was worse than that of those from SK families, and also higher prevalence of obesity.

INTRODUCTION

10. '5,097 children…' Please do not start your sentence with numbers.

Answer: We have revised the following according to your suggestion

➔ About 15% of all defectors are 5,097 children and adolescents aged 0-19 years.

11. 'According to the National Nutrition Survey suffer from stunting, wasting, and underweight, respectively.[3]' This is a very lengthy sentence. Please use two sentences instead of one.

Answer: We have revised the following according to your suggestion

➔ **According to the 2012 National Nutrition Survey, NK verified the effectiveness of its food aid program on 35.1%, 4.6%, and 15.2% of NK children. Each was found to be suffering from malnutrition.[3]**

12. 'that 1.1 million people … were malnourished in North Korea' Hard to understand this. How many people were malnourished in North Korea? Please make it clearer.

Answer: This means that 43.4% of North Korea's total population, or 1.1 million, experienced malnutrition.

13. 'low health status' What does this mean?

Answer: This means poor health. So I changed it to "poor health"

➔ because children and youth of the NKD families were unlikely to receive appropriate health management during their growth period due to the instability of life after the defection from NK, they are expected to have-poor health status

14. 'Even if nutrition is well supplied afterward, the risks of adult diseases like diabetes mellitus or obesity increase considerably.' Regardless of race/ethnicity and nationalities, we frequently encounter people who have diabetes or are obese. I would make this sentence clearer.

Answer: I respond to your suggestion. This information describes the appearance of patients with diabetes or obesity regardless of race or nationality. I deleted it because there was an ambiguous part to describe in the introduction of this paper.

15. 'Previous studies..' Please include references after 'studies.' Readers might want to see how many studies have been performed thus far.

Answer: Reference [10-13] corresponds to prior studies.

16. 'the studies…' Same issue here. Please include references after 'studies.'

Answer: 'the study' refers to our current research.

17.'the nutritional status of children and youth of the North Korean defector … South Korean society' 'the nutritional status of children and youth of the North Korean defector … South Korean society using' Please paraphrase one of these.

Answer: We have revised the following according to your suggestion

➔ the nutritional status of children and adolescents of the NKD families after settlement in SK society.

Data collection methods

18. 'We contacted parents and children' How did you have their contact information?

Answer: The heads of local Hana centres and alternative school NGOs explained and agreed to the purpose of the study. Local Hana centers and NGOs connected registered North Korean defectors, and alternative schools helped them meet those who were participating in the education program.

19. 'We thoroughly explained the purpose…' How did you explain this? Over the phone? Or, by emails? Who did this? Did the person have any human research protection training?

Answer: The researchers explained it face-to-face, and the researchers in this study completed both clinical trials and target protection programs.

20. 'direct interviews' Did you mean the face to face interview?

Answer: This means face to face interview. So I changed it to "face to face interview"

➔ Trained researchers face to face interviewed the participants using structured questionnaires, an d measured height and weight.

21. 'measuring height and weight via mobile stadiometer and scale.' Where did you measure their weight/height? In a lab or in a room? Or, in a hospital? In front of other participants? Did they have to take off their clothes and shoes? How many times were measured? Only one time?

Answer: In general, 1:1 measurements were made in the room without wearing a jacket or shoes. It was stated in the limitations that there is a difference between national health nutrition surveys and physical measurement methods.

Children and youth of the South Korean households

22. '4,880 children and youth aged 0–18 years' How did babies and infants participate in the KNHANES VII?

Answer: Sampling households of each attempt were extracted through stratification sampling and children and adolescents in the family were investigated with their parents.

Investigated variables

23. 'can measure up to 200 cm on a 0.1 cm scale' This sentence is out of our study purpose most children/adolescents are shorter than 200 cm. Please remove this and try to make your paper concise.

Answer: We have revised the following according to your suggestion. We deleted the sentence.

24. 'Additionally, we examined country of birth (South Korea, North Korea, China, etc.), … (South Korea, North Korea, China, etc.), and date of entry into South Korea.' Please avoid redundancy.

Answer: We have revised the following according to your suggestion. We deleted the sentence.

25. "Monthly income quartile" "high," "low." Quotation marks are not necessary. Participants' growth status, malnutrition, overweight, and obesity

Answer: We have revised the following according to your suggestion. We deleted the quotation marks.

➔ We defined the socioeconomic status using quartile of monthly household income and recategor ized as high (highest and medium-high) and low (medium-low and lowest).

26. '2017 Korean…' Please do not start your sentence with numbers.
Answer: We have revised the following according to your suggestion.

➔ To assess the participants' growth status, we used the 2017 Korean National Growth Charts (KN GC).[16]

27. "WHO Growth Standards" Quotation marks are not necessary.

28. 'only including breastfed infants' Pleas put 'only' after 'infants'.

Answer: We have revised the following according to your suggestion.

➔ WHO Growth Standards were developed by including breastfed infants only to be used as the st andards for breastfed infants. In the case of children aged 3–18 years, we used the same data fr om 2007 KNGC

29. 'height for age, weight for age, and BMI for age' This is redundant.

Answer: We have revised the following according to your suggestion. We deleted the sentence.

30. 'the participants of the study' This is wordy. Please use 'study participants' or 'participants'

Answer: We have revised the following according to your suggestion.

➔ We compared malnutrition, overweight, and obesity of participants using the standards of the 2017 KNGC.[18]

Data analysis

31. 'SPSS 25.0 (IBM Corp., Armonk, NY, USA)' This is wordy too. For example, SPSS 25 is the only one in version 25.

Answer: We have revised the following according to your suggestion.

➔ The statistical program SPSS version 25 was used to analyze the collected data

32. 'Independent t-test for the mean of the growth status and chi-square test and Fisher's exact test for the proportional distribution of malnutrition, overweight, and obesity were used ....' Hard to understand this.

33. 'between the North Korean defector group and the South Korean group' This is wordy. Why don't you use easier and simple words/terms. How about 'between the two groups'?

Answer: We have revised the following according to your suggestion

➔ Independent t-test for the mean of the growth status and chi-square test and Fisher's exact test for the proportional distribution of malnutrition, overweight, and obesity were used to evaluate the significance of the differences between two groups.

33. 'overweight, and obesity prevalence of the North Korean defector group' I would state 'the prevalence of overweight and obesity of…'

Answer: We have revised the following according to your suggestion

➔ Independent t-test for the mean of the growth status and chi-square test and Fisher's exact test for the proportional distribution of malnutrition, overweight, and obesity were used to evaluate the significance of the differences between two groups.

34. 'gender and age adjustment' Why were these two variables used as control variables? What is your rationale for this?

Answer: After receiving your comment, the researchers considered it. The definition of malnutrition and overweight obesity was already based on gender and age. Therefore, we decided not to correct gender and age when analyzing logistic regression. Thank you for a good idea.

Comparison of the general characteristics

35. '5,407 consisting of 527… 4,880 children and youth of the South Korean households' The number of participants in each group was biased. Please add this to your study limitation.

Answer: Another reviewer suggested a re-analysis on the same note as you. So I did the analysis again, and the result was written down again.

36. 'there were 227 males (52.6%) and 250 females (47.4%)' This wordy because 100-52.6=47.4.

37. '2,513 males (51.5%) and 5,367 females (48.5%).' Same here.

38. '(6.6%) and 492 children aged 24 months or older (93.4%). Same here.

39. '(5.4%) and 4,618 children aged 24 months or older (94.6%). Same.

40. 'In South Korea of the North Korean defector group' This is wordy. You have already mentioned that defectors have been living in South Korea

Answer: Another reviewer suggested a re-analysis on the same note as you. So I did the analysis again, and the result was written down again.

➔ The general characteristics of total 2,136 subjects (527 in NKD group and 1,609 in SK group) are shown in table 1. In the NKD group, there were 35 (6.6%) children aged 0–23 months and 492 (93.4%) children aged 24 months or older, and in the SK household group, there were 74 (4.6%) children aged 0–23 months and 1,535 (95.4%) children aged 24 months or older. The duration of settlement was 4.2 ± 3.4 (Mean±SD) years. The most common nationality of birth mother was NK(96.9%), and the most common nationality of birth father was China(50.7%).

41. '4.2 ± 3.4 years' Small numbers first.

Answer: 4.2 ± 3.4 years means mean and standard deviation.

42. 'the most common country of birth was China (235, 45.7%) followed by South Korea (37.4%) and North Korea (16.7%).' You do not need to list all of your findings if these are shown in Tables.

43.'(64.2%) and 1,743 low-income households (35.8%)' Wordy.

Answer: We have revised the following according to your suggestion. We deleted the sentence

44.'BMI (kg/m²)   19.4 vs 18.3' I do not see any difference in BMI between the two groups in Table 1.

Answer: In this study, BMI percentile was identified based on the 2017 growth chart, not on BMI.

45. 'Monthly household income Low High' Please use $.

Answer: According to raw data from the National Health and Nutrition Survey, it is difficult to display dollars in the upper, middle, middle, and lower income quartiles.

46. 'The results of the comparison of malnutrition, overweight, and obesity between the North Korean defector group and the South Korean group are as follows.' This is wordy. Please use the terms 'two groups.'

Answer: We have revised the following according to your suggestion

47. 'The North Korean defector group was higher in all 5 categories' The rates of overweight and obesity between two groups were 11.2% vs 8.4% and 12.2% vs 9.4%. I do not see big differences.

48. 'overweight (p = 0.032)' This p-values may be due to the large sample size. Please report your effect sizes [e.g., Cramér's V].

Answer: Another reviewer suggested a re-analysis. So I did the analysis again, and the result was written down again.

➔ The prevalence of stunting, wasting, underweight, overweight, and obesity was 8.9%, 10.2%, 10.4%, 11.2%, and 12.2%, respectively, in the NKD group; 1.9%, 7.1%, 5.9%, 9.2%, and 9.3%, respectively, in the SK group. The The NKD group showed significantly higher prevalence than SK group in stunting(p<0.001), wasting(p=0.014), underweight(p<0.001), obesity(p=0.041) but not in overweight (Table 2).

Comparison of malnutrition, overweight, and obesity according to monthly household income

48. 'and 8.7%, 10.0%, and 10.2%, respectively, in the North Korean defector' What was the income level of this group? Like South Korean households, were North Korean defectors not divided into two groups according to their monthly household income?

Answer: The study was conducted on the assumption that North Korean defectors are in worse economic conditions than low-income families in South Korea.

Comparison of the prevalence of malnutrition, overweight, and obesity

49. 'The results of logistic regression analysis to assess the … between the North Korean defector and South Korean groups are as follows.' This is lengthy.

50. 'higher prevalence of stunting' Prevalence and ORs are different. Please use the correct term.

51. 'All differences..' ORs are not differences.

52. 'After gender and age adjustment' With these controlled variables, your ORs are adjusted ORs, not just ORs.

53. 'which were found to be significant' This is redundant as you have already reported your CIs.

Answer: We have revised the following according to your suggestion. We deleted the sentence

DISCUSSION

54. 'This study aimed to assess…' It seemed that you compared the two groups instead of assessing North Korean defectors.

55. 'As a result of logistic regression analysis comparing…' Yes, as you stated here, you have been comparing.

Answer: We have revised the following according to your suggestion.

➔ In this study, we investigated the nutritional status of children and adolescents from NKD families and compared with the status of those from SK families. Our result demonstrated that the prevalence of stunting, wasting, underweight and obesity of NKD group were significantly higher than those of SKD group. Based on these results, we could find out that children and adolescents of the NKD families had more nutritional problems than those of the SK families.

56. 'ORs were 5.59 (95% CI: 3.87–8.09), 1.93 (95% CI: 1.42–2.62), 1.37 (95% CI: 1.03–1.83), and 1.33 (95% CI: 1.00–1.78). These data not necessary.

57. 'nutritional problems such as malnutrition, overweight, and obesity' Obesity is a very complicated disease. There are so many factors [e.g., gender, race/ethnicity, income, marital status, physical activity, stress, depression, anxiety, family obesity history, sleep duration, sleep quality, etc] causing obesity. Nutrition is just a par of it.

Answer: We have revised the following according to your suggestion. We deleted the sentence

58. 'Previous studies…' Please include references here.

59. 'The study showed..' Did you mean 'stuides'?

Answer: The DISCUSSION has been revised and rewritten to reflect your comments.

60. 'the original members of South Korea' I would use one or two terms only for South Korean who were born in South Korean and grew up there. How about 'native South Korean'? The words 'original members' are confusing.

61. 'These previous study results …' This is awkward.

62. 'A previous study…' How about 'Prior research?'

63.'in Seoul and Incheon…' Some readers do not know what Seoul and Incheon. Please state 'in two cities (Seoul and Incheon).'

64.'had a higher possibility of being' How about 'were at a greater risk of obesity'?

65. 'Children and youth of the North Korean defector households are thought … being obese as they grow up.' This is a very long discussion section. Please reiterate your findings, compare them to previous findings, and provide suggestions or implications for future research.
66.'experience health disparity…' I would continue to use the terms 'health disparities between the two groups.'

67. 'based on the study results…' Did you mean the present study?

Answer: We have revised the following according to your suggestion. we deleted it because I thought the content was long and it was not the main result of the thesis. The DISCUSSION has been revised and rewritten to reflect your comments. Thank you for your good idea

68. 'this study has significance…' What does this mean? Did you try to state that this study contributes to the literature?

Answer: You are right. I mean, that contributes to this research.

70. 'Growth charts … WHO Child Growth Standards…' Please briefly explain the information about Growth charts and WHO Child Growth Standards. This is too long.
Answer: We have revised the following according to your suggestion. Unnecessary part deleted.

71. 'There are some limitations to this study.' There might have been measurement errors when weight of participants was measured. Please address this. How did you measure heigh/weight of children/adolescents who participated in KNHANES?

Answer: The limitations of the study were recorded that the observation methods were different during the National Health Nutrition Survey and the North Korean defector's growth nutrition survey.

72. 'this study has great significance…' This sentence is awkward.

Answer: We have revised the following according to your suggestion.

➔ This study is significant in that it is the first large-scale comparison of the nutritional status of chil dren and adolescents of SK families and those of NKD families after they entered and settled in

SK. In conclusion, the nutritional status of children and adolescents form NKD families was wors
e than that of those from SK families, and also higher prevalence of obesity

73. 'The development of the program to assess the growth status of children and through further
follow-up is required.' Hard to understand this.

Answer: We have revised the following according to your suggestion. We deleted the sentence

Reviewer: 2

Dr. Jitendra Narayan, Indian Council of Medical Research, Department of Health Research
Comments to the Author:

1. Latest references are missing. e.g. the author has recently published a study in PLOS ONE on No
   vember 6, 2020, https://doi.org/10.1371/journal.pone.0241963 titled 'Double burden of malnutritio
   n and obesity in children and adolescents from North Korean refugee families' which was based o
   n the same data set, has not been referenced in this manuscript. The title of the above article is th
   e same as stated in the conclusion of the abstract part of the current manuscript through which I u
   nderstand that the same findings have been rewritten in the current manuscript.
   Answer: We have revised the following according to your suggestion.

➔ **Participants:** The total number of children and adolescents was 2,136 consisting of 527 subject

s from the NKD families and 1,609 subjects from the SK families. **Results: The overall prevale**

nce of stunting, wasting, underweight, overweight, and obesity in NKD group was 8.9%, 1

0.2%, 10.4%, 11.2%, and 12.2% respectively, and 1.9%, 7.1%, 5.9%, 9.2%, and 9.3%, respecti

vely, in SK families. The NKD group showed significantly higher prevalence than SK group in stu

nting(p<0.001), wasting(p=0.014), underweight(p<0.001), obesity(p=0.041) but not in overweight

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2. The results indicated that 527 children and youth were considered for this study whereas 227 (52.
   6%) were males and 250 (47.4%) were females. The figures 227 of males need to be rechecked.
   Answer: We have revised the following according to your suggestion.

➔ The general characteristics of total 2,136 subjects (527 in NKD group and 1,609 in SK group) ar

e shown in table 1. In the NKD group, there were 35 (6.6%) children aged 0–23 months and 492

(93.4%) children aged 24 months or older, and in the SK household group, there were 74 (4.6%)

children aged 0–23 months and 1,535 (95.4%) children aged 24 months or older. The duration o

f settlement was 4.2 ± 3.4 (Mean±SD) years. The most common nationality of birth mother was

NK(96.9%), and the most common nationality of birth father was China(50.7%).

Table 1. General characteristics

Variable	Total	North Korean Defector group	South Korean Group
Number	2,136(100.0)	527(24.7)	1,609(75.3)
Sex			
Boy	1,120(52.4)	277(52.6)	843(52.4)

3. For comparison between North Korean Refugee Families (NKRF) 527 and South Korean Families (SKF) 4880, the data is proportionately inadequate as the corresponding sample size has much difference i.e. NKRF (527): SKF (4880).

4. Besides that, the data depicted in Table 1 indicates that the average height, weight, and BMI of NKRF were on the higher side compared to SKF, whereas the comparison of percent prevalence of stunting, wasting, underweight, overweight and obesity was also mentioned on the higher side in NKRF group, which seems a little contradictory. I would suggest the author recheck the statistical analysis by adjusting the sample size proportionately.

Answer: We did statistical analysis again and restated the results of the analysis.

5. The title of the manuscript is not much convincing, this may also be rephrased

Answer: We have revised the following according to your suggestion.

➔ Compaing the nutritional status of children and adolescents from North Korean defector families and South Korean families.

VERSION 2 – REVIEW

REVIEWER	Jaesin Sa Touro University, of Health and Human Performance
REVIEW RETURNED	09-Sep-2021

GENERAL COMMENTS	All the issues and concerns have been comprehensively addressed. I do not have any rebuttals for the changes made by the authors. Thank you!